

RECEIVED
CENTRAL CENTER

JAN 24 2005

Anderson et al.
Serial No.: 09/585,475
Page 2 of 16**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listing of the claims in the application:

LISTING OF THE CLAIMS:

Claims 1-84 (canceled)

Claim 85. (currently amended) A method for determining a degree of toxicity or efficacy of an agent comprising;

exposing a tissue of interest in a subject to the agent such that the agent contacts said tissue of interest,

obtaining a test biological sample containing protein from said tissue of interest,

measuring levels of at least one protein marker selected from the group consisting of actin gamma, adenosine kinase (EC 2.7.1.20), adensylhomocysteinase, alanine aminotransferase, alpha 2u-globulin, annexin IV, annexin VI, antiqutin, apolipoprotein A-I, apolipoprotein E precursor, catechol O-methyl transferase, calreticulin, catalase, cytokeratin ends A, N-G-dimethylarginine dimethylaminohydrolase, D-dopachrome tautomerase, ~~e/*-poxide~~ epoxide hydrolase, soluble, ER60 protease; 58kD microsomal protein, fatty acid binding protein, fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 79), fructose-1,6-bisphosphatase (EC 3.1.3.11)(MSN 182), fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 577), fumarylacetoacetate hydrolase, 75kD glucose related protein, glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49), glutathione synthetase, 90kD heat shock protein, heme oxygenase-1, heterogeneous nuclear ribonucleoprotein K, HMG-CoA synthase, mitochondrial frag. (EC 4.1.3.5), humor F06, N-hydroxyarylamine sulfotransferase (EC 2.8.2.-), 3-hydroxyanthranilate 3,4-dioxygenase (EC 1.13.11.6), 4-hydroxyphenylpyruvate dioxygenase, induced in

Anderson et al.
Serial No.: 09/585,475
Page 3 of 16

androgen-independent prostate cells by effects of apoptosis, isopentenyl-diphosphate delta-isomerase (EC 5.3.3.2), isovaleryl-CoA dehydrogenase, keratin type II cytoskeletal 8 (MSN 97), keratin type I cytoskeletal 18, keratin type II cytoskeletal 8 (MSN 41), ketohexokinase (EC 2.7.1.3), lamin b, major vault protein, methionine adenosyltransferase, 3-mercaptopyruvate sulfoltransferase (EC 2.8.1.2), 23kD morphine-binding protein, nucleolar phosphoprotein B23 (MSN 574), nucleolar phosphoprotein B23 (MSN 671), 2-oxoisovalerate dehydrogenase alpha subunit, mitochondrial, peroxisomal enoyl hydratase-like protein, phenylalanine hydroxylase (EC 1.14.16.1), protein kinase C inhibitor, pyruvate kinase, isoenzymes (MSN 282), pyruvate kinase L, ras-GTPase-activating protein SH3-domain binding protein, senescence marker protein-30 (MSN 55), senescence marker protein-30 (MSN 103), serine protease inhibitor 2, tropomyosin, MSN 42, MSN 59, MSN 66, MSN 69, MSN 73, MSN 76, MSN 83, MSN 117, MSN 122, MSN 127, MSN 128, MSN 139, MSN 143, MSN 148, MSN 154, MSN 155, MSN 197, MSN 203, MSN 218, MSN 229, MSN 232, MSN 237, MSN 238, MSN 261, MSN 267, MSN 268, MSN 275, MSN 279, MSN 286, MSN 270, MSN 289, MSN 292, MSN 297, MSN 310, MSN 311, MSN 318, MSN 322, MSN 339, MSN 350, MSN 358, MSN 362, MSN 365, MSN 371, MSN 372, MSN 379, MSN 384, MSN 395, MSN 399, MSN 416, MSN 420, MSN 423, MSN 427, MSN 434, MSN 435, MSN 438, MSN 461, MSN 469, MSN 479, MSN 492, MSN 497, MSN 502, MSN 506, MSN 510, MSN 522, MSN 546, MSN 556, MSN 557, MSN 565, MSN 569, MSN 571, MSN 578, MSN 602, MSN 605, MSN 613, MSN 618, MSN 625, MSN 637, MSN 644, MSN 646, MSN 653, MSN 665, MSN 666, MSN 669, MSN 681, MSN 689, MSN 718, MSN 719, MSN 721, MSN 777, MSN 779, MSN 787, MSN 802, MSN 806, MSN 810, MSN 839, MSN 876, MSN 879, MSN 887, MSN 888, MSN 900, MSN 905, MSN 966, MSN 984, MSN 1065, MSN 1081, MSN 1053, MSN 1172, MSN 1195, MSN 1215, and MSN 1255, and

comparing the levels of said markers to the levels of the same markers in a control sample or other sample exposed to a known toxic or a known effective agent

*Anderson et al.
Serial No.: 09/585,475
Page 4 of 16*

to determine whether the tissue of interest in a subject is experiencing toxicity or an effective response or the degree of such responses.

Claim 86. (previously presented) The method of claim 85 wherein said protein marker is selected from the group consisting of MSN 73, MSN 76, MSN 83, MSN 117, MSN 122, MSN 127, MSN 128, MSN 139, MSN 143, MSN 148, MSN 154, MSN 155, MSN 197, MSN 203, MSN 218, MSN 229, MSN 232, MSN 237, MSN 238, MSN 261, MSN 267, MSN 268, MSN 275, MSN 279, MSN 286, MSN 270, MSN 289, MSN 292, MSN 297, MSN 310, MSN 311, MSN 318, MSN 322, MSN 339, MSN 350, MSN 358, MSN 362, MSN 365, MSN 371, MSN 372, MSN 379, MSN 384, MSN 395, MSN 399, MSN 416, MSN 420, MSN 423, MSN 427, MSN 434, MSN 435, MSN 438, MSN 461, MSN 469, MSN 479, MSN 492, MSN 497, MSN 502, MSN 506, MSN 510, MSN 522, MSN 546, MSN 556, MSN 557, MSN 565, MSN 569, MSN 571, MSN 578, MSN 602, MSN 605, MSN 613, MSN 618, MSN 625, MSN 637, MSN 644, MSN 646, MSN 653, MSN 665, MSN 666, MSN 669, MSN 681, MSN 689, MSN 718, MSN 719, MSN 721, MSN 777, MSN 779, MSN 787, MSN 802, MSN 806, MSN 810, MSN 839, MSN 876, MSN 879, MSN 887, MSN 888, MSN 900, MSN 905, MSN 966, MSN 984, MSN 1065, MSN 1081, MSN 1053, MSN 1172, MSN 1195, MSN 1215, and MSN 1255.

Claim 87. (previously presented) The method of claim 85 wherein plural protein markers are measured.

Claim 88. (currently amended) The method of claim 85 wherein the levels of protein markers ~~determines~~ determine the relative amount of toxicity or effectiveness.

Claim 89. (previously presented) The method of claim 87 wherein the levels of protein markers in the test biological sample are compared to the levels of the

Anderson et al.
Serial No.: 09/585,475
Page 5 of 16

same protein markers in biological samples exposed to a known effective agent or a known toxic agent.

Claim 90. (previously presented) The method of claim 89 wherein the agent is a pharmaceutical suspected of having the same mechanism of action as said known effective agent and it is given in a pharmaceutically appropriate amount.

Claim 91. (previously presented) The method of claim 90 wherein the pharmaceutical is an antilipemic agent.

Claim 92. (previously presented) The method of claim 85 wherein the comparing is to the control and the control is a biological sample containing protein from the same tissue of interest before the tissue of interest is exposed to the agent.

Claim 93. (previously presented) The method of claim 85 wherein the agent is a pharmaceutical suspected of having the same mechanism of action as said known effective agent and is given in a pharmaceutically appropriate amount.

Claim 94. (previously presented) The method of claim 93 wherein the pharmaceutical is an antilipemic agent.

Claim 95. (canceled)

Claim 96. (previously presented) The method of claim 85 wherein the tissue of interest is exposed to an amount greater than an effective amount of an agent.

Claim 97. (previously presented) The method of claim 96 wherein the greater amount is a toxic amount of an agent.

Anderson et al.
Serial No.: 09/585,475
Page 6 of 16

Claim 98. (currently amended) A method for determining a degree of toxicity or efficacy of an antilipemic agent comprising:

exposing a tissue of interest in a subject to the antilipemic agent such that the antilipemic agent contacts said tissue of interest,

obtaining a test biological sample containing protein from said tissue of interest,

measuring levels of at least one protein marker selected from the group consisting of actin gamma, adenosine kinase (EC 2.7.1.20), adensylhomocysteinase, alanine aminotransferase, alpha 2u-globulin, annexin IV, annexin VI, antiqutin, apolipoprotein A-I, apolipoprotein E precursor, catechol O-methyl transferase, calreticulin, catalase, cytokeratin ends A, N-G-dimethylarginine dimethylaminohydrolase, D-dopachrome tautomerase, ~~ox~~^{peroxide}-epoxide hydrolase, soluble, ER60 protease; 58kD microsomal protein, fatty acid binding protein, fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 79), fructose-1,6-bisphosphatase (EC 3.1.3.11)(MSN 182), fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 577), fumarylacetoacetate hydrolase, glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49), glutathione synthetase, 90kD heat shock protein, heme oxygenase-1, heterogeneous nuclear ribonucleoprotein K, HMG-CoA synthase, mitochondrial frag. (EC 4.1.3.5), humor F06, N-hydroxyarylamine sulfotransferase (EC 2.8.2.-), 3-hydroxyanthranilate 3,4-dioxygenase (EC 1.13.11.6), 4-hydroxyphenylpyruvate dioxygenase, induced in androgen-independent prostate cells by effects of apoptosis, isopentenyl-diphosphate delta-isomerase (EC 5.3.3.2), isovaleryl-CoA dehydrogenase, keratin type II cytoskeletal 8 (MSN 97), keratin type I cytoskeletal 18, keratin type II cytoskeletal 8 (MSN 41), ketohexokinase (EC 2.7.1.3), lamin b, major vault protein, methionine adensyltransferase, 3-mercaptopyruvate sulfotransferase (EC 2.8.1.2), 23kD morphine-binding protein, nucleolar phosphoprotein B23 (MSN 574), nucleolar phosphoprotein B23 (MSN 671), 2-oxoisovalerate dehydrogenase alpha subunit, mitochondrial, peroxisomal enoyl hydratase-like protein, phenylalanine hydroxylase (EC 1.14.16.1), protein kinase C inhibitor, pyruvate kinase, isoenzymes (MSN 282),

*Anderson et al.
Serial No.: 09/585,475
Page 7 of 16*

pyruvate kinase L, ras-GTPase-activating protein SH3-domain binding protein, senescence marker protein-30 (MSN 55), senescence marker protein-30 (MSN 103), serine protease inhibitor 2, tropomyosin, MSN 42, MSN 59, MSN 66, MSN 69, MSN 73, MSN 76, MSN 83, MSN 117, MSN 122, MSN 127, MSN 128, MSN 139, MSN 143, MSN 148, MSN 154, MSN 155, MSN 197, MSN 203, MSN 218, MSN 229, MSN 232, MSN 237, MSN 238, MSN 261, MSN 267, MSN 268, MSN 275, MSN 279, MSN 286, MSN 270, MSN 289, MSN 292, MSN 297, MSN 310, MSN 311, MSN 318, MSN 322, MSN 339, MSN 350, MSN 358, MSN 362, MSN 365, MSN 371, MSN 372, MSN 379, MSN 384, MSN 395, MSN 399, MSN 416, MSN 420, MSN 423, MSN 427, MSN 434, MSN 435, MSN 438, MSN 461, MSN 469, MSN 479, MSN 492, MSN 497, MSN 502, MSN 506, MSN 510, MSN 522, MSN 546, MSN 556, MSN 557, MSN 565, MSN 569, MSN 571, MSN 578, MSN 602, MSN 605, MSN 613, MSN 618, MSN 625, MSN 637, MSN 644, MSN 646, MSN 653, MSN 665, MSN 666, MSN 669, MSN 681, MSN 689, MSN 718, MSN 719, MSN 721, MSN 777, MSN 779, MSN 787, MSN 802, MSN 806, MSN 810, MSN 839, MSN 876, MSN 879, MSN 887, MSN 888, MSN 900, MSN 905, MSN 966, MSN 984, MSN 1065, MSN 1081, MSN 1053, MSN 1172, MSN 1195, MSN 1215, and MSN 1255, and

comparing the levels of said markers to the levels of the same markers in a control sample or other sample exposed to a known toxic or a known effective agent to determine whether the tissue of interest in a subject is experiencing toxicity or an effective antilipemic response or the degree of such responses,

wherein the an abundance of said protein marker is significantly different in the test biological samples exposed to an effective amount of said antilipemic agent.

Claim 99. (previously presented) The method of claim 98 wherein said protein marker is selected from the group consisting of MSN 73, MSN 76, MSN 83, MSN 117, MSN 122, MSN 127, MSN 128, MSN 139, MSN 143, MSN 148, MSN 154, MSN 155, MSN 197, MSN 203, MSN 218, MSN 229, MSN 232, MSN 237, MSN 238, MSN 261, MSN 267, MSN 268, MSN 275, MSN 279, MSN 286, MSN

Anderson et al.
Serial No.: 09/585,475
Page 8 of 16

270, MSN 289, MSN 292, MSN 297, MSN 310, MSN 311, MSN 318, MSN 322, MSN 339, MSN 350, MSN 358, MSN 362, MSN 365, MSN 371, MSN 372, MSN 379, MSN 384, MSN 395, MSN 399, MSN 416, MSN 420, MSN 423, MSN 427, MSN 434, MSN 435, MSN 438, MSN 461, MSN 469, MSN 479, MSN 492, MSN 497, MSN 502, MSN 506, MSN 510, MSN 522, MSN 546, MSN 556, MSN 557, MSN 565, MSN 569, MSN 571, MSN 578, MSN 602, MSN 605, MSN 613, MSN 618, MSN 625, MSN 637, MSN 644, MSN 646, MSN 653, MSN 665, MSN 666, MSN 669, MSN 681, MSN 689, MSN 718, MSN 719, MSN 721, MSN 777, MSN 779, MSN 787, MSN 802, MSN 806, MSN 810, MSN 839, MSN 876, MSN 879, MSN 887, MSN 888, MSN 900, MSN 905, MSN 966, MSN 984, MSN 1065, MSN 1081, MSN 1053, MSN 1172, MSN 1195, MSN 1215, and MSN 1255.

Claim 100. (previously presented) The method of claim 98 wherein plural protein markers are measured.

Claim 101. (currently amended) The method of claim 98 wherein the levels of protein markers ~~determines~~ determine the relative amount of toxicity or effectiveness.

Claim 102. (previously presented) The method of claim 98 wherein the levels of protein markers in the test biological sample are compared to the levels of the same protein markers in biological samples exposed to a known effective antilipemic agent or a known toxic agent.

Claim 103. (previously presented) The method of claim 98 wherein the comparing is to the control and the control is a biological sample containing protein from the same tissue of interest before the tissue of interest is exposed to the antilipemic agent.

Anderson et al.
Serial No.: 09/585,475
Page 9 of 16

Claim 104. (previously presented) The method of claim 98 wherein the tissue of interest is exposed to an amount greater than an effective amount of the antilipemic agent.

Claim 105. (previously presented) The method of claim 98 wherein the greater amount is a toxic amount of the antilipemic agent.

Claim 106. (new) A method for determining a degree of toxicity or efficacy of an agent comprising;

exposing a tissue of interest in a subject to the agent such that the agent contacts said tissue of interest,

obtaining a test biological sample containing protein from said tissue of interest,

detecting at least one polypeptide fragment of a protein selected from the group consisting of actin gamma, adenosine kinase (EC 2.7.1.20), adensylhomocysteinase, alanine aminotransferase, alpha 2u-globulin, annexin IV, annexin VI, antiquitin, apolipoprotein A-I, apolipoprotein E precursor, catechol O-methyl transferase, calreticulin, catalase, cytokeratin ends A, N-G-dimethylarginine dimethylaminohydrolase, D-dopachrome tautomerase, e/*-poxide hydrolase, soluble, ER60 protease; 58kD microsomal protein, fatty acid binding protein, fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 79), fructose-1,6-bisphosphatase (EC 3.1.3.11)(MSN 182), fructose-1,6-bisphosphatase (EC 3.1.3.11) (MSN 577), fumarylacetoacetate hydrolase, 75kD glucose related protein, glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49), glutathione synthetase, 90kD heat shock protein, heme oxygenase-1, heterogeneous nuclear ribonucleoprotein K, HMG-CoA synthase, mitochondrial frag. (EC 4.1.3.5), humor F06, N-hydroxyarylamine sulfotransferase (EC 2.8.2. -), 3-hydroxyanthranilate 3,4-dioxygenase (EC 1.13.11.6), 4-hydroxyphenylpyruvate dioxygenase, induced in androgen-independent prostate cells by effects of apoptosis, isopentenyl-diphosphate delta-isomerase (EC 5.3.3.2), isovaleryl-CoA dehydrogenase, keratin type II cytoskeletal

Anderson et al.
Serial No.: 09/585,475
Page 10 of 16

8 (MSN 97), keratin type I cytoskeletal 18, keratin type II cytoskeletal 8 (MSN 41), ketohexokinase (EC 2.7.1.3), lamin b, major vault protein, methionine adenosyltransferase, 3-mercaptopyruvate sulfotransferase (EC 2.8.1.2), 23kD morphine-binding protein, nucleolar phosphoprotein B23 (MSN 574), nucleolar phosphoprotein B23 (MSN 671), 2-oxoisovalerate dehydrogenase alpha subunit, mitochondrial, peroxisomal enoyl hydratase-like protein, phenylalanine hydroxylase (EC 1.14.16.1), protein kinase C inhibitor, pyruvate kinase, isoenzymes (MSN 282), pyruvate kinase L, ras-GTPase-activating protein SH3-domain binding protein, senescence marker protein-30 (MSN 55), senescence marker protein-30 (MSN 103), serine protease inhibitor 2, tropomyosin, MSN 42, MSN 59, MSN 66, MSN 69, MSN 73, MSN 76, MSN 83, MSN 117, MSN 122, MSN 127, MSN 128, MSN 139, MSN 143, MSN 148, MSN 154, MSN 155, MSN 197, MSN 203, MSN 218, MSN 229, MSN 232, MSN 237, MSN 238, MSN 261, MSN 267, MSN 268, MSN 275, MSN 279, MSN 286, MSN 270, MSN 289, MSN 292, MSN 297, MSN 310, MSN 311, MSN 318, MSN 322, MSN 339, MSN 350, MSN 358, MSN 362, MSN 365, MSN 371, MSN 372, MSN 379, MSN 384, MSN 395, MSN 399, MSN 416, MSN 420, MSN 423, MSN 427, MSN 434, MSN 435, MSN 438, MSN 461, MSN 469, MSN 479, MSN 492, MSN 497, MSN 502, MSN 506, MSN 510, MSN 522, MSN 546, MSN 556, MSN 557, MSN 565, MSN 569, MSN 571, MSN 578, MSN 602, MSN 605, MSN 613, MSN 618, MSN 625, MSN 637, MSN 644, MSN 646, MSN 653, MSN 665, MSN 666, MSN 669, MSN 681, MSN 689, MSN 718, MSN 719, MSN 721, MSN 777, MSN 779, MSN 787, MSN 802, MSN 806, MSN 810, MSN 839, MSN 876, MSN 879, MSN 887, MSN 888, MSN 900, MSN 905, MSN 966, MSN 984, MSN 1065, MSN 1081, MSN 1053, MSN 1172, MSN 1195, MSN 1215, and MSN 1255, and

comparing the polypeptide fragment of the protein to the same polypeptide fragment of the protein in a control sample or other sample exposed to a known toxic or a known effective agent to determine whether the tissue of interest in a subject is experiencing toxicity or an effective response or the degree of such responses.

*Anderson et al.
Serial No.: 09/585,475
Page 11 of 16*

107. (new) The method of claim 106 wherein said polypeptide fragment of the protein is detected by mass spectrometry.

108. (new) The method of claim 106 wherein plural polypeptide fragments of the protein are detected.

109. (new) The method of claim 106 wherein polypeptide fragments from a plurality of protein are detected.

110. (new) The method of claim 106 wherein the quantity of the polypeptide fragment of the protein in the sample is compared to the quantity of the same polypeptide fragment of the same protein in the control sample or other sample exposed to a known toxic or a known effective agent.

111. (new) The method of claim 109 wherein a pattern is determined based on a computer algorithm from said comparing the polypeptide fragment of the protein to the same polypeptide fragment of the protein in a control sample or other sample exposed to a known toxic or a known effective agent.